



Instruction Manual

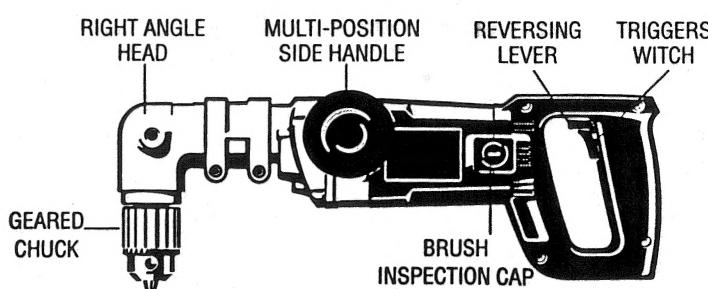
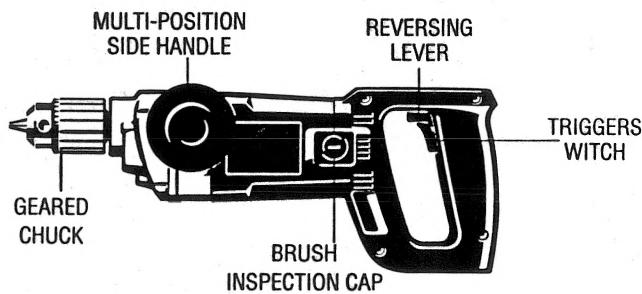
1338 • 1339 1/2" End-Handle Drills

1348 1/2" Right Angle Drill

Getting the most out of your tool.

Please take time to read this manual and pay particular attention to the safety rules we've provided for your protection. If you have any questions about your tool please call:

1-800-9-BD TOOL
(1-800-923-8665)



IMPORTANT SAFETY INSTRUCTIONS

WARNING: When using electric tools, basic safety precautions should always be followed to reduce risk of fire, electric shock, and personal injury including the following:

READ ALL INSTRUCTIONS

Double Insulation

Double insulated tools are constructed throughout with two separate layers of electrical insulation or one double thickness of insulation between you and the tool's electrical system. Tools built with this insulation system are intended to be grounded. As a result, your tool is equipped with a two prong plug which permits you to use extension cords without concern for maintaining a ground connection.

NOTE: Double insulation does not take the place of normal safety precautions when operating this tool. The insulation system is for personal protection against injury resulting from a possible electrical insulation failure within the tool.

CAUTION: WHEN SERVICING USE ONLY IDENTICAL REPLACEMENT PARTS. Repair or replace damaged cords.

Polarized Plugs

Polarized plugs (one blade is wider than the other) are used on equipment to reduce the risk of electric shock. When provided, this plug will fit in a polarized outlet only one way. If the plug does not fit fully into your outlet, reverse the plug. If it still does not fit, contact a qualified electrician to install the proper outlet. Do not change the plug in any way.

Safety Instructions For All Tools

- **KEEP WORK AREA CLEAN.** Cluttered areas and benches invite injuries.
- **CONSIDER WORK AREA ENVIRONMENT.** Don't expose power tools to rain. Don't use power tools in damp or wet locations. Keep work area well lit. Do not use tool in presence of flammable liquids or gases.
- **GUARD AGAINST ELECTRIC SHOCK.** Prevent body contact with grounded surfaces. For example; pipes, radiators, ranges, and refrigerator enclosures.
- **KEEP CHILDREN AWAY.** Do not let visitors contact tool or extension cord. All visitors should be kept away from work area.
- **STORE IDLE TOOLS.** When not in use, tools should be stored in dry, and high or locked-up place — out of reach of children.
- **DON'T FORCE TOOL.** It will do the job better and safer at the rate for which it was intended.
- **USE RIGHT TOOL.** Don't force small tool or attachment to do the job of a heavy-duty tool. Don't use tool for purpose not intended.
- **DRESS PROPERLY.** Do not wear loose clothing or jewelry. They can be caught in moving parts. Rubber gloves and non-skid footwear are recommended when working outdoors. Wear protective hair covering to contain long hair.
- **USE SAFETY GLASSES.** Also use face or dust mask if operation is dusty.
- **DON'T ABUSE CORD.** Never carry tool by cord or yank it to disconnect from receptacle. Keep cord from heat, oil, and sharp edges.
- **SECURE WORK.** Use clamps or a vise to hold work. It's safer than using your hand and it frees both hands to operate tool.
- **DON'T OVERREACH.** Keep proper footing and balance at all times.
- **MAINTAIN TOOLS WITH CARE.** Keep tools sharp and clean for better and safer performance. Follow instructions for lubricating and changing accessories. Inspect tool cords periodically and if damaged, have repaired by authorized service facility. Inspect extension cords periodically and replace if damaged. Keep handles dry, clean, and free from oil and grease.
- **DISCONNECT OR LOCK OFF TOOLS** when not in use, before servicing, and when changing accessories, such as blades, bits, cutters.
- **REMOVE ADJUSTING KEYS AND WRENCHES.** Form habit of checking to see that keys and adjusting wrenches are removed from tool before turning it on.

- **AVOID UNINTENTIONAL STARTING.** Don't carry tool with finger on switch. Be sure switch is off when plugging in.
- **EXTENSION CORDS.** Make sure your extension cord is in good condition. When using an extension cord, be sure to use one heavy enough to carry the current your product will draw. An undersized cord will cause a drop in line voltage resulting in loss of power and overheating. The following table shows the correct size to use depending on cord length and nameplate ampere rating. If in doubt, use the next heavier gage. The smaller the gage number, the heavier the cord.

Minimum Gage for Cord Sets

Volts	Total Length of Cord in Feet			
	0-25	26-50	51-100	101-150
120V	0-50	51-100	101-200	201-300
240V				
Ampere Rating	More Than	Not more Than	AWG	
0	-	6	18	16
6	-	10	18	16
10	-	12	16	14
12	-	16	14	12
				Not Recommended

- **OUTDOOR USE EXTENSION CORDS.** When tool is used outdoors, use only extension cords intended for use outdoors and so marked.
- **STAY ALERT.** Watch what you are doing. Use common sense. Do not operate tool when you are tired.
- **CHECK DAMAGED PARTS.** Before further use of the tool, a guard or other part that is damaged should be carefully checked to determine that it will operate properly and perform its intended function. Check for alignment of moving parts, binding of moving parts, breakage of parts, mounting, and any other conditions that may affect its operation. A guard or other part that is damaged should be properly repaired or replaced by an authorized service center unless otherwise indicated elsewhere in this instruction manual. Have defective switches replaced by authorized service center. Do not use tool if switch does not turn it on and off.
- **CAUTION:** When drilling or driving into walls, floors or wherever live electrical wires may be encountered, DO NOT TOUCH ANY METAL PARTS OF THE TOOL! Hold the tool only by insulated grasping surfaces to prevent electric shock if you drill or drive into a live wire.

SAVE THESE INSTRUCTIONS

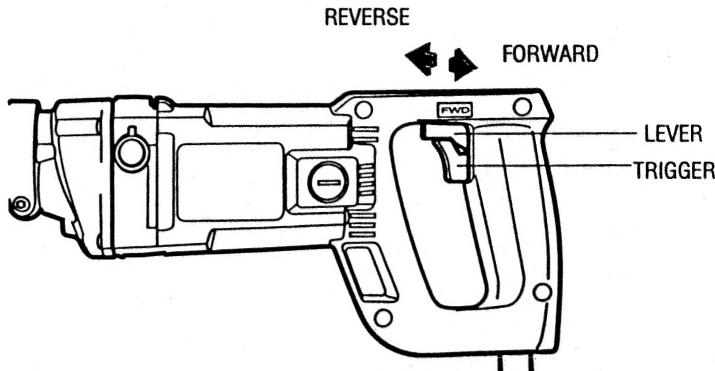
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Motor

Your B&D tool is powered by a B&D built motor. Be sure your power supply agrees with the nameplate marking. Voltage decrease of more than 10% will cause loss of power and overheating. All B&D tools are factory tested; if this tool does not operate, check the power supply.

Switch (Figure 1)

Pulling the trigger switch turns the tool "ON"; releasing the trigger switch turns the tool "OFF". For controlling the rotational direction of the spindle, there is a lever, integral to and on top of the trigger switch. For drilling (forward position) this lever should be slanted to the left side of the tool (viewing from behind the handle); for easing drill bits out of tight holes (reverse position) it should be slanted to the right side of the tool. A built-in mechanical interlock prevents changing the direction of the tool unless the trigger switch is released. After any reversing, return lever to forward position.



Right Angle Drill Head

CHANGING SPEEDS BY REVERSING THE RIGHT ANGLE HEAD

Your right angle drill comes from the factory with the right angle head installed in the low speed (400 RPM) position. The speed of the tool can be increased to 900 RPM by removing and reversing the right angle head as described below.

TURN OFF AND UNPLUG THE DRILL.

1. Remove the chuck by opening the jaws and inserting the hex wrench supplied into the socket screw inside the chuck. Turn the screw counterclockwise to remove it from the spindle. Pull the chuck straight off of the drill. (Do not attempt to unscrew the chuck.)
2. Loosen the forward clamping screw on the right angle head clamp shown in Figure 2, using the hex wrench provided. NOTE: It may be necessary to loosen both clamp screws.
3. Pull the head straight off of the drill. (Take care not to lose the adapter inside the clamp.)
4. Turn the right angle head around and align notches in the adapter with drive pins in the right angle head.
5. Re-assemble the right angle head onto the drill and tighten the clamp screws. IMPORTANT: TIGHTEN BOTH CLAMP SCREWS ALTERNATELY AT LEAST 4 TIMES EACH TO A TORQUE OF APPROXIMATELY 100 INCH-LBS. TO ASSURE PROPER CLAMPING FORCE.
6. Place chuck on spindle of right angle head and align drive pins in spindle with grooves on chuck. Insert the chuck screw and tighten securely (clockwise) with the hex wrench provided.

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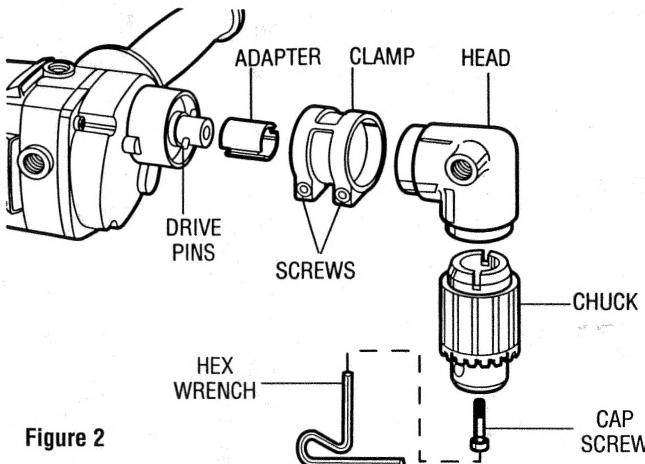


Figure 2

Use Of Tool As A Standard End Handle Drill

TURN OFF AND UNPLUG DRILL.

The right angle head can be removed to convert the drill to a standard end handle drill with a spindle speed of 600 RPM. Simply remove the right angle head, clamp and adapter as instructed above and install the chuck directly onto the tool spindle. **NOTE:** When using the tool without the right angle head, remove and save the adapter from the spindle. Do not install chuck with adapter in place.

Side Handles

TURN OFF AND UNPLUG DRILL.

Whether or not you are using the right angle head the tool will need a side handle for operator control. NEVER ATTEMPT TO USE THIS TOOL WITHOUT A SIDE HANDLE FIRMLY ATTACHED.

Attaching Side Handle to Right Angle Head:

Select, from the carton, the side handle shown in Figure 3A. Screw it into the hole in the right angle head as shown in the figure. Tighten securely. (It can be installed on either side of the tool.)

Attaching Side Handle to Gear Case:

When the right angle head is not used, the side handle must be attached to the gear case (Figure 3B). Because of the extremely high torque of this drill, a side handle extension must be used to lengthen the side handle. The plastic bag that contains the hex wrench and the chuck key also contains the handle extension. Screw the extension firmly into the hole in the gear case of your drill and screw the side handle into the extension. DO NOT USE WITHOUT EXTENSION.

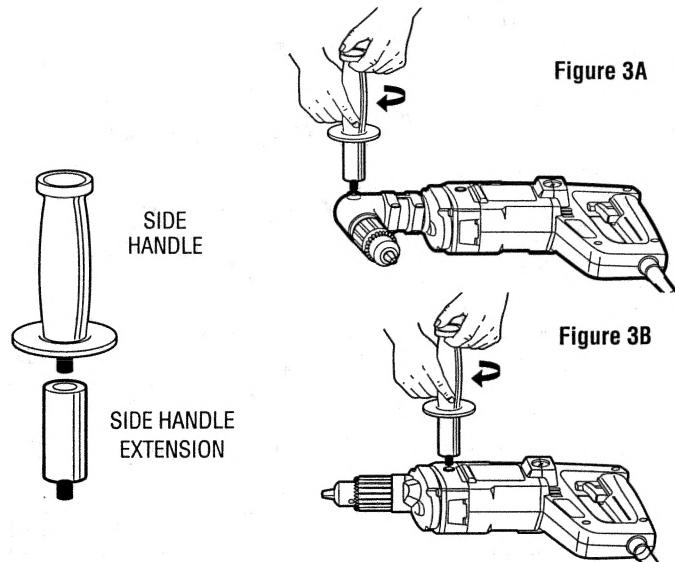


Figure 3A

Figure 3B

Operation

CAUTION: Always unplug the tool when attaching or changing bits or accessories.

1. Open the chuck jaws by turning collar with fingers and insert bit fully into the chuck. Tighten chuck collar by hand. Place chuck key in each of the three holes, and tighten in clockwise direction. It's important to tighten chuck with all three holes. To release bit, turn chuck key counter clockwise in just one hole, then loosen chuck by hand.
2. Use sharp drill bits only. For WOOD, use twist drill bits, spade bits, power auger bits, or hole saws. For METAL, use high-speed steel twist drill bits or hole saws. For MASONRY, such as brick, cement, cinder block etc., use carbide-tipped bits.
3. Be sure the material to be drilled is anchored or clamped firmly. If drilling thin material, use a wood "back-up" block to prevent damage to the material.
4. Always apply pressure in a straight line with the bit. Use enough pressure to keep drill biting, but do not push hard enough to stall the motor or deflect the bit.
5. Hold drill firmly to control the twisting action of the drill. Use side handle. **CAUTION:** Drill may stall if overloaded causing a sudden twist. Always expect the stall. Grip the drill firmly to control the twisting action and avoid injury.
6. IF DRILL STALLS, it is usually because it is being overloaded or improperly used. RELEASE TRIGGER IMMEDIATELY, remove drill bit from work, and determine cause of stalling. DO NOT CLICK TRIGGER OFF AND ON IN AN ATTEMPT TO START A STALLED DRILL — THIS CAN DAMAGE THE DRILL.
7. To minimize stalling on breaking through the material, reduce pressure on drill and ease the bit through the last fractional part of the hole.
8. Keep the motor running when pulling the bit back out of a drilled hole. This will help prevent jamming.

DRILLING IN METAL

Use a cutting lubricant when drilling metals. The exceptions are cast iron and brass which should be drilled dry. The cutting lubricants that work best are sulphurized cutting oil or lard oil; bacon grease will also serve the purpose.

DRILLING IN WOOD

Holes in wood can be made with the same twist drills used for metal. These bits may overheat unless pulled out frequently to clear chips from the flute. For larger holes, use Power Drill Wood Bits. Work that is apt to splinter should be backed up with a block of wood.

Geared Chucks

1. Always completely insert the shank of the drill bit or accessory in the chuck. This permits full gripping power and prevents cocking the chuck jaws. When using drill bits or accessories with 3 "flats" on the shank, the chuck jaws should be located on the center of these flats.
2. Use all three holes in the chuck body to tighten the jaws. Insert the chuck key into each hole and tighten as much as possible. To release the drill bit use the chuck key in only one hole.
3. Use only a chuck key to tighten or loosen the chuck jaws.

Chuck Removal and Attachment

Open chuck jaws all the way to gain access to the cap screw inside the chuck (see Figure 4). Insert hex wrench and remove cap screw (right hand thread). Pull chuck straight off spindle. Do not try to unscrew chuck.

Chuck Key Holder

1. Push double-hole end of holder through the slot in other end of holder (Figure 5.)
2. Slip loop over electric plug and draw loop tight around cord (Figure 6.)
3. Push ends of chuck key handle through 2 holes in end of holder (Figure 7.)

Cleaning

With the tool motor running, blow dirt and dust out of all air vents with dry air at least once a week.

Lubrication

Your tool was properly lubricated before leaving the factory. In from two to six months, depending upon use, take or send your tool to a Black & Decker (U.S.) Inc. Industrial Service Center or other qualified service organization for a complete cleaning, inspection and relubrication.

Tools used constantly on production or heavy duty jobs or exposed to heat may require more frequent lubrication. Tools "out of service" for long periods should be relubricated before being put back into service.

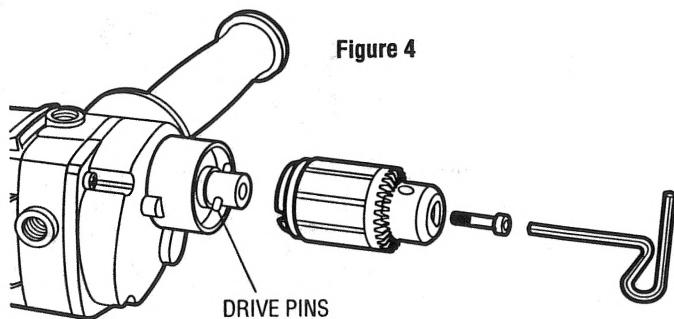


Figure 4

Figure 5

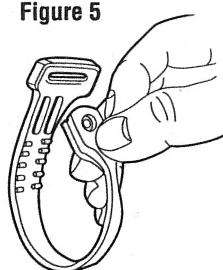


Figure 7

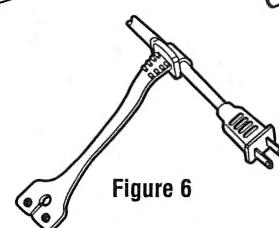


Figure 6

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Motor Brushes

Be sure tool is unplugged before inspecting brushes. Carbon brushes should be regularly inspected for wear. To inspect brushes, unscrew the plastic brush inspection caps (located in the sides of the motor housing) and withdraw the spring and brush assemblies from the tool. Keep brushes clean and sliding freely in their guides. Carbon brushes have varying symbols stamped into them, and if the brush is worn down to the line closest to the spring, it must be replaced. New brush assemblies are available at service centers.

IMPORTANT!

To assure product safety and reliability, particularly for double insulated tools, repairs, maintenance and adjustment (excluding maintenance described in this manual) should be performed by B&D service centers or authorized service centers, using identical B&D replacement parts.

Accessories

If you need assistance in locating any accessory call 1-800-9-BD TOOL: (1-800-923-8665) or contact Black & Decker (U.S.) Inc., Consumer Services Department, 626 Hanover Pike, P.O. Box 618, Hampstead, MD 21074.

CAUTION: The use of any non-recommended accessory may be hazardous.

Every B&D tool is of the highest quality.

If you wish to contact us regarding this product, please call toll free between 8:00am and 8:00pm ET, seven days a week.

1-800-9-BD TOOL

(1-800-923-8665)

One Year Free Maintenance

All B&D tools for Industry and Construction are covered under a one year free maintenance program where B&D will inspect your tool for safety and provide necessary maintenance or repairs, including normal wear and tear parts, for one year, FREE OF CHARGE.

Full Warranty

All B&D tools for Industry and Construction are warranted to be free of any defects in materials or workmanship. Upon thorough examination of tool, B&D will repair or replace, at our option, any product that is determined to be defective.

Conditions

The service/safety check and the warranty do not apply to: repairs made or attempted by anyone other than an authorized B&D service location; misuse, abuse, neglect, improper application of the tool; missing parts; or normal wear and tear (after first year of ownership). Please return the complete unit, transportation prepaid, to any B&D factory owned or B&D authorized service center location (list provided with tool or see yellow pages under "Tools Electric").